

## CLAIMS

What is claimed is:

1. A printer for printing an encoded data stream, the data stream capable of including a section of complex text data, the printer comprising:

5 a text parser for parsing the encoded data stream to determine the section of complex text data in the encoded data stream;

at least one font including a plurality of glyphs; and

a layout engine coupled to the text parser and with the at least one font, the layout engine for receiving the section of complex text data from the text parser and for

10 determining at least one of the plurality of glyphs corresponding to the section of complex text data.

2. The printer of claim 1 further comprising:

a rasterizer, coupled with the layout engine, the text parser and the at least one font,  
15 the rasterizer for positioning the at least one of the plurality of glyphs on at least one portion of a page corresponding to the section of complex text data.

3. The printer of claim 1 wherein the at least one font includes an encoding table and a glyph table, the encoding table including a plurality of codes and a plurality of  
20 glyph indices corresponding to the plurality of codes, the glyph table including the plurality of glyphs corresponding to the plurality of glyph indices.

4. The printer of claim 3 wherein the at least one glyph can include a null glyph.

5. The printer of claim 3 wherein the layout engine determines the at least one glyph by determining at least one index of the plurality of glyph indices for the section of complex text data and at least one position for the at least one glyph.

5 6. The printer of claim 3 wherein the text parser provides a remaining portion of the data stream not including the section of complex text data to the rasterizer to perform one-to-one rendering of a remaining portion of the data stream.

10 7. The printer of claim 1 wherein the code is Unicode and wherein the section of complex text data includes Unicode complex text.

8. The printer of claim 7 wherein the text parser determines the section of complex text data based upon at least one code word for the section of complex text data.

15 9. The printer of claim 1 wherein the text parser determines the section of complex text data based upon at least one marker for the section of complex text data.

10. A printer for printing an encoded data stream, the data stream capable of including a section of complex text data, the printer comprising:

20 means for parsing data for determining the section of complex text data in the data stream; and

at least one font including a plurality of glyphs,

layout means, coupled to the parsing means and with the at least one font defining means, the layout means for receiving the section of complex text data from the text parser and for determining at least one of the plurality of glyphs corresponding to the section of complex text data.

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11. A method for printing an encoded data stream, the data stream capable of including a section of complex text data, the method comprising the steps of:

(a) parsing the data stream in a printer to determine the section of complex text data in the data stream; and

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(b) utilizing a layout engine to receive the section of complex text data from the text parser and to determine at least one of the plurality of glyphs corresponding to the section of complex text data.

12. The method of claim 11 further comprising the step of:

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(c) positioning the at least one of the plurality of glyphs on at least one portion of a page corresponding to the section of complex text data.

13. The method of claim 11 further comprising the step of:

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(c) utilizing an encoding table including a plurality of codes and a plurality of glyph indices corresponding to the plurality of codes, the glyph table including the plurality of glyphs corresponding to the plurality of glyph indices.

14. The method of claim 13 wherein the layout engine determines the at least one glyph by determining at least one index of the plurality of glyph indices for the section of complex text data and at least one position for the at least one glyph.

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15. The method of claim 13 further comprising the step of:

(d) utilizing a rasterizer to perform one-to-one rendering of a remaining portion of the encoded data stream not including the section of complex text data.

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16. The method of claim 11 wherein the code is Unicode and wherein the section of complex text data includes Unicode complex text.

17. The method of claim 16 wherein the data parsing step (a) further includes the step of:

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(a1) determining the section of complex text data based upon at least one code word for the section of complex text data.

18. The method of claim 11 wherein the data parsing step (a) further includes the step of:

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(a1) determining the section of complex text data based upon at least one marker for the section of complex text data.